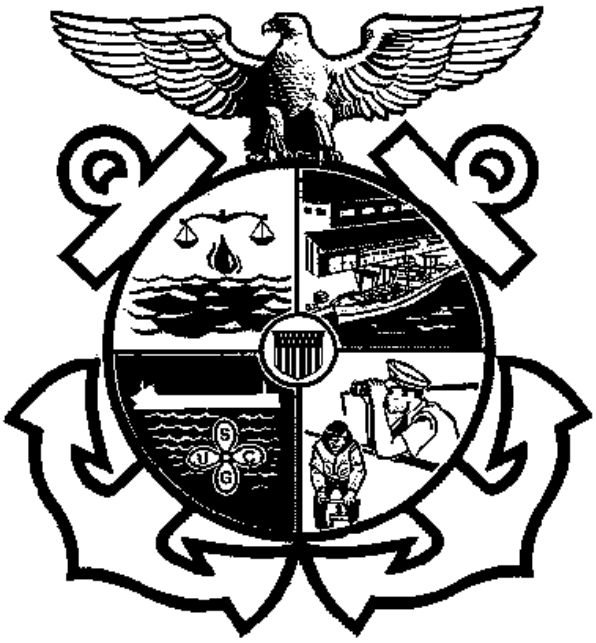
# Hull Inspector (Tankship) (HT)



# PQS Workbook

# HT Qualification
# Task Matrix

| TSK # | TASK | DATE |
|---|---|---|
| CS02 | Inspect bulk liquid cargo system. | |
| CS08 | Inspect cargo pumproom(s). | |
| CS10 | Inspect cargo tank vents. | |
| CS11 | Inspect closed gauging systems. | |
| CS12 | Ensure vessel's IGS/COW operations/equipment manual was reviewed. | |
| CS14 | Inspect the COW equipment. | |
| CS15 | Inspect the vessel's letter of acceptance for installed IGS/COW system. | |
| CS16 | Inspect the vessel's IGS/COW operations/equipment manual entries. | |
| CS17 | Examine IGS equipment and verify that it is properly installed. | |
| CS18 | Witness IGS operational test of safety shutdowns and controls. | |
| CS19 | Witness IGS operational test of visual and/or audible alarms. | |
| CS20 | Witness operational test of IG blower shutdown for various conditions. | |
| CS21 | Ensure gauging system is installed for the cargoes listed on the SOE. | |
| CS22 | Inspect the cargo pipe valves, pump manifolds, and piping. | |
| CS26 | Inspect the cargo transfer hoses for condition and required markings. | |
| FF15 | Inspect fixed foam extinguishing systems. | |
| MI03 | Determine if additional requirements for TV steering systems are met. | |
| PP08 | Examine slop tank arrangement. | |
| PP09 | Examine instruction manual for cargo and ballast systems. | |
| PP10 | Examine records of discharge operations. | |
| PP11 | Examine damage stability information. | |
| RT03 | Complete HI qualification. | |
| VS01 | Inspect ventilation system in pumproom(s). | |
| VS04 | Inspect cargo tank vents. | |

Trainee's OJT Manual has been reviewed and I recommend a training qualification board be scheduled.

Training Officer: _____

Date: _____

Date Qualification Board Completed: _____

# HT Tasks

| *Task Number* | *OJT Task* | *Date Completed* | *Verifying Officer* |
|---|---|---|---|
| CS02 | Inspect bulk liquid cargo system. | _____ | _____ |

- Pumprooms and/or pumping equipment:
  - Lighting fixtures and all electrical equipment are explosion proof
  - No dead ended, loose or frayed cabling
  - No jury-rigged wiring, extension cords, etc.
  - Bulkheads gas tight
  - Ladders
  - Ventilation system complete and operating
  - Pumps and controls operational
  - No leaking seals
  - Mechanical and electrical remote operating devices attached and operational
- Cargo piping:
  - Piping
  - Valves
  - Fittings
  - Gaskets
  - Supports
  - Materiel condition of all components
  - Expansion joints
- Gauging and venting system:
  - Type of gauging (open, closed, restricted)
  - Gauging type approved for cargo carried
  - Gauging systems operational
  - High and low level alarms
  - Overfill controls
  - Condition of vent piping and vent masts
  - Vent outlets at proper height
  - Required valves installed and operational
  - Pressure relief valves tested and certified - no signs of tampering
  - Pressure vacuum valves and headers free of corrosion or dirt
  - Flame screens installed and acceptable
- Vapor recovery system
- Bulk liquid cargo heating system:
  - Indicate which tanks
  - Separate from hotel services for toxic cargoes
  - Contamination detection available for toxic cargo
  - System operational
- Bulk liquid cargo inerting system

# HT Tasks

| *Task Number* | *OJT Task* | *Date Completed* | *Verifying Officer* |
|---|---|---|---|
| CS02 (cont'd.) | • Operational procedures:<br>– Aboard vessel<br>– Procedures in compliance with applicable CFR parts<br>– Transfer system adequately described<br>– Shipping papers/manifest | | |
| CS08 | Inspect cargo pumproom(s).<br>• Pumproom access doors open onto the weatherdeck<br>• Ladders and accesses allow individuals wearing breathing apparatus entry<br>• Hoisting system provided from the pump room to the main decks<br>• Discharge pressure gauge for each pump located outside the pump room<br>• Bilge pumping system with remote control and high level alarms provided<br>• Air changed with proper frequency by the power ventilation system | _____ | _____ |
| CS10 | Inspect cargo tank vents.<br>• Vent heights adequate and within CFR and IMO requirements<br>• Vents located properly with respect to discharge areas<br>• Drain traps installed<br>• PV valves set to lift at proper pressure | _____ | _____ |
| CS11 | Inspect closed gauging systems.<br>• High level alarms provided<br>• High level alarms have audible and visual indicators at the cargo control station<br>• Alarm level set within the limits proscribed by IMO or CFRs | _____ | _____ |
| CS12 | Ensure that vessel has an IGS/COW operations and equipment manual and that it has been reviewed by the Coast Guard or, after 1 JUN 82, by ABS. | _____ | _____ |
| CS14 | Inspect COW piping, valves and fittings, tank washing machines, pumps and stripping system to ensure they are properly constructed, installed, and maintained.<br>• Dirty ballast transfer pumps and piping<br>• Fixed piping for COW<br>• Oily residue tank<br>• Oil discharge/monitoring control system<br>• Coast Guard approved plans<br>• Permanently mounted COW machines and piping<br>• Overpressure relief valves | _____ | _____ |

| *Task Number* | *OJT Task* | *Date Completed* | *Verifying Officer* |
|---|---|---|---|
| CS14 (cont'd.) | • Spectacle flanges<br>• One portable drive unit for each three COW machines<br>• Pumps of sufficient capacity to drive system<br>• Two or more pumps capable of supplying oil to the COW<br>• Stripping capacity in each tank 1.25 times the rate of the COW pumps<br>• Means to isolate stripping pump from cargo tank<br>• Pump monitoring device | | |
| CS15 | Inspect the vessel's letter of acceptance for the installed IGS/COW system issued by the Coast Guard or ABS. | _____ | _____ |
| CS16 | Inspect the vessel's IGS/COW operations and equipment manual for entries for required inspections and details of operations conducted. | _____ | _____ |
| CS17 | Examine the following IGS equipment and verify that it is installed properly.<br>• Flue gas isolation valve working<br>• Soot blower/flue gas interlock<br>• Gas scrubber with water seal and 2 sources of water supply<br>• Two blowers<br>• Shut-off valves on suction and discharge side of blowers<br>• The following instrumentation:<br>– IG temperature<br>– IG pressure<br>– Oxygen content in IG<br>• Means to calibrate instruments<br>• Automatic gas regulatory valve<br>• Two non-return devices<br>• Gas main isolation valve<br>• Deck water seal<br>• Pressure/vacuum protection<br>• Portable instruments to measure oxygen and flammable vapors<br>• Piping, drains | _____ | _____ |
| CS18 | Witness the IGS operational test of safety shutdowns and controls.<br>• Soot blower/fuel gas isolation valve interlock<br>• Automatic gas regulatory valve<br>– Upon blower failure<br>– Upon loss of water pressure to deck water seal<br>– Upon loss of control power<br>– Upon low water/high water in scrubber<br>– High IG temperature<br>• Backflow pressure test | _____ | _____ |

## HT Tasks

| *Task Number* | *OJT Task* | *Date Completed* | *Verifying Officer* |
|---|---|---|---|
| CS19 | Witness IGS operational test of visual and/or audible alarms.<br>• Low IG pressure<br>• Oxygen content in IG - move them 8%<br>• Loss of water supply to deck water seal<br>• High IG temperature<br>• Loss of water supply to scrubber<br>• High water level in scrubber<br>• IG blower failure<br>• Power failure to automatic gas regulating valve<br>• High IG pressure | _____ | _____ |
| CS20 | Witness operational test of the IG blower shut down for the following conditions:<br>• Loss of water supply to deck water seal<br>• High IG temperature<br>• Low water level/flow in scrubber<br>• High water level in scrubber<br>• Remote outside of space | _____ | _____ |
| CS21 | Ensure proper gauging system is installed for the cargoes listed on the cargoes and restrictions list (SOE). | _____ | _____ |
| CS22 | Inspect cargo system locations/equipment and determine if they meet the criteria specified in the regulations.<br>• Cargo pipe valving<br>• Cargo pump manifolds<br>• Cargo piping and hose connection manifolds | _____ | _____ |
| CS26 | Inspect the cargo transfer hoses for condition and required markings. | _____ | _____ |
| FF15 | Inspect fixed foam extinguishing systems.<br>• Quantity of foam adequate for area protected<br>• The rate of application meets regulatory requirements<br>• Controls positioned properly<br>• Instructions posted<br>• Valves marked<br>• Foam has been analyzed:<br>– Specific gravity<br>– pH<br>– Sediment content<br>– Water %<br>• Monitors and piping clear and function properly<br>• Markings correct | _____ | _____ |

## HT Tasks

| *Task Number* | *OJT Task* | *Date Completed* | *Verifying Officer* |
|---|---|---|---|
| MI03 | Determine if additional requirements for tank vessel steering systems are met.<br>• For tank vessels 10,000 GT or greater<br>• For tank vessels 40,000 GT of greater | _____ | _____ |
| PP08 | Examine slop tank arrangement. | _____ | _____ |
| PP09 | Examine instruction manual for cargo and ballast systems. | _____ | _____ |
| PP10 | Examine records of discharge operations. | _____ | _____ |
| PP11 | Examine damage stability information. | _____ | _____ |
| RT06 | Complete SMI Introduction Course. | _____ | _____ |
| VS01 | Inspect ventilation system in pumproom(s). | _____ | _____ |
| VS04 | Inspect cargo tank vents.<br>• PV valves provided where required and function properly<br>• Vent heights in compliance with regulations and international agreements<br>• Vents open onto safe/unsafe areas<br>• Vent header systems provided where required | _____ | _____ |

| DATE | LOCATION | VESSEL NAME | VESSEL CLASS | INSPECTION TYPE | LEAD INSPECTOR |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**NOTES**

| DATE | LOCATION | VESSEL NAME | VESSEL CLASS | INSPECTION TYPE | LEAD INSPECTOR |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**NOTES**

| DATE | LOCATION | VESSEL NAME | VESSEL CLASS | INSPECTION TYPE | LEAD INSPECTOR |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**NOTES**